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* * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 09:06:29 ON 20 SEP 2004

=> file caplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'CAPLUS' ENTERED AT 09:06:51 ON 20 SEP 2004


=> e spirin a s, 1990/re
E1            3     SPIRILET M, 1984, V23, P359, INORG CHEM/RE
E2            1     SPIRILI C, 2001, V121, P159, GASTROENTEROLOGY/RE
E3            0 --> SPIRIN A S, 1990/RE
E4            1     SPIRIN A, 1957, V22, P744, BIOKHIMIYA MOSCOW/RE
E5            1     SPIRIN A, 1958, P656, SPEKTROFOTOMETRICESKOE OPREDELENIE SUM
                    MARNOVO KOLICESTVA NUCLEINOVIH KISLOT BIOHIMIA/RE
E6            1     SPIRIN A, 1958, V23, P617, BIOCHEM/RE
E7            3     SPIRIN A, 1958, V23, P617, BIOCHEMISTRY/RE
E8            1     SPIRIN A, 1958, V23, P656, BIOCHEMISTRY/RE
E9            1     SPIRIN A, 1958, V23, P656, BIOCHEMISTRY MOSCOW/RE
E10           1     SPIRIN A, 1958, V23, P656, BIOCHEMISTRY RUS/RE
E11           3     SPIRIN A, 1958, V23, P656, BIOCHIMIA/RE
E12           1     SPIRIN A, 1958, V23, P656, BIOCHIMICA/RE

=> e spirin a s, 1988/re
E1            3     SPIRILET M, 1984, V23, P359, INORG CHEM/RE
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E3            0 --> SPIRIN A S, 1988/RE
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E5            1     SPIRIN A, 1958, P656, SPEKTROFOTOMETRICESKOE OPREDELENIE SUM
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E9            1     SPIRIN A, 1958, V23, P656, BIOCHEMISTRY MOSCOW/RE
E10           1     SPIRIN A, 1958, V23, P656, BIOCHEMISTRY RUS/RE
E11           3     SPIRIN A, 1958, V23, P656, BIOCHIMIA/RE
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E13           3     SPIRIN A, 1958, V23, P656, BIOCHIMYA/RE
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E15           1     SPIRIN A, 1958, V23, P656, BIOKHIM/RE
E16           1     SPIRIN A, 1958, V23, P656, BIOKHIMIA/RE
E17          21     SPIRIN A, 1958, V23, P656, BIOKHIMIYA/RE
E18           1     SPIRIN A, 1958, V23, P656, BIOKHIMIYA IN RUSSIAN/RE
E19           3     SPIRIN A, 1958, V23, P656, BIOKHIMIYA MOSCOW/RE
E20           1     SPIRIN A, 1958, V23, P656, BIOKHIMIYA RUS/RE
E21           2     SPIRIN A, 1958, V23, P656, BIOKHIMYA/RE
E22           1     SPIRIN A, 1958, V23, P657, BIOKHIMIYA/RE
E23           1     SPIRIN A, 1958, V5, P656, BIOCHIMIJA/RE
E24           1     SPIRIN A, 1959, P656, BIOKHIMIYA/RE

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E25           1     SPIRIN A, 1959, V23, P656, BIOKHIMIYA/RE
E26           3     SPIRIN A, 1960, V2, P436, J MOL BIOL/RE
E27           1     SPIRIN A, 1963, V1, P301, PROG NUCL ACID RES/RE
E28           2     SPIRIN A, 1963, V1, P301, PROG NUCLEIC ACID RES/RE
E29           1     SPIRIN A, 1964, MACROMOLECULAR STRUCTURE OF RNAS/RE
E30           6     SPIRIN A, 1964, V25, P321, ZH OBSHCH BIOL/RE
E31           2     SPIRIN A, 1964, V25, P321, ZHURNAL OBSHCHEI BIOLOGII/RE
E32           4     SPIRIN A, 1965, V14, P611, J MOL BIOL/RE
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E33	8	SPIRIN A, 1965, V150, P214, SCIENCE/RE
E34	1	SPIRIN A, 1965, V59, P187, USP SOVREM BIOL/RE
E35	1	SPIRIN A, 1966, V1, P1, CUR TOP DEV BIOL/RE
E36	12	SPIRIN A, 1966, V1, P1, CURR TOP DEV BIOL/RE

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E37	2	SPIRIN A, 1966, V1, P1, CURR TOPICS DEV BIOL/RE
E38	1	SPIRIN A, 1966, V1, P1, CURRENT TOPICS IN DEVELOPMENTAL BIOLOGY/RE
E39	1	SPIRIN A, 1966, V10, P20, EUR J BIOCHEM/RE
E40	1	SPIRIN A, 1966, V2, P285, ZH EVOLYUTS BIOKH FIZIOL/RE
E41	1	SPIRIN A, 1966, V2, P285, ZH EVOLYUTS BIOKHIM FIZIOL/RE
E42	1	SPIRIN A, 1966, VI, P1, CURRENT TOPICS IN DEVELOPMETAL BIOLOGY/RE
E43	4	SPIRIN A, 1968, V179, P1467, DOKL AKAD NAUK SSSR/RE
E44	1	SPIRIN A, 1968, V179, P1467, DOKL AKAD NAUK USSR/RE
E45	1	SPIRIN A, 1968, V179, P1467, DOKLADY AKAD NAUK SSSR/RE
E46	1	SPIRIN A, 1968, V2, P115, CURR MOD BIOL/RE
E47	1	SPIRIN A, 1968, V34, P197, COLD SPRING HARBOR SYMP QUANT BIOL/RE
E48	1	SPIRIN A, 1969, THE RIBOSOME/RE

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E49	12	SPIRIN A, 1969, V10, P20, EUR J BIOCHEM/RE
E50	3	SPIRIN A, 1969, V34, P197, COLD SPRING HARB SYMP QUANT BIOL/RE
E51	7	SPIRIN A, 1969, V34, P197, COLD SPRING HARBOR SYMP QUANT BIOL/RE
E52	2	SPIRIN A, 1970, V34, P197, COLD SPRING HARBOR SYMP QUANT BIOL/RE
E53	1	SPIRIN A, 1970, V4, P501, MOL BIOL/RE
E54	1	SPIRIN A, 1970, V4, P501, MOLEC BIOL/RE
E55	1	SPIRIN A, 1970, V4, P618, MOL BIOL/RE
E56	1	SPIRIN A, 1971, THE RIBOSOME IN RUSSIAN/RE
E57	1	SPIRIN A, 1971, V14, P114, FEBS LETT/RE
E58	3	SPIRIN A, 1971, V14, P349, FEBS LETT/RE
E59	1	SPIRIN A, 1972, V23, P197, FEBS SYMP/RE
E60	2	SPIRIN A, 1972, V24, P219, FEBS LETT/RE

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E61	2	SPIRIN A, 1974, V40, P38, FEBS LETT/RE
E62	1	SPIRIN A, 1974, V40S, PS38, FEBS LETT/RE
E63	1	SPIRIN A, 1976, P3, BIOCHEMISTRY OF NUCLEIC ACIDS AND NUCLEOPROTEINS/RE
E64	1	SPIRIN A, 1976, P72, PRIRODA NATURE/RE
E65	1	SPIRIN A, 1976, V101, P553, J MOL BIOL/RE
E66	2	SPIRIN A, 1976, V7, P109, ORIG LIFE/RE
E67	2	SPIRIN A, 1978, V21, P39, PROG NUCLEIC ACID RES MOL BIOL/RE
E68	5	SPIRIN A, 1978, V88, P15, FEBS LETT/RE
E69	2	SPIRIN A, 1979, V76, P4867, PROC NATL ACAD SCI USA/RE
E70	1	SPIRIN A, 1983, MOLECULAR BIOLOGY RIBOSOME STRUCTURE AND PROTEIN BIOSYNTHESIS/RE
E71	2	SPIRIN A, 1983, V156, P217, FEBS LETT/RE
E72	1	SPIRIN A, 1984, P216, STRUKTURA RIBOSOM I SINTEZ BELKA RIBOSOME STRUCTURE AND PROTEIN SYNTHESIS/RE

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E73	1	SPIRIN A, 1984, P71, PROGR BIOORG CHEM MOL BIOL/RE
E74	3	SPIRIN A, 1984, P71, PROGRESS IN BIOORGANIC CHEMISTRY AND MOLECULAR BIOLOGY/RE
E75	1	SPIRIN A, 1984, V18, P1445, MOL BIOL/RE
E76	1	SPIRIN A, 1985, P162, TRENDS BIOL SCI/RE
E77	1	SPIRIN A, 1985, P556, STRUCTURE FUNCTIONS AND GENETICS OF RIBOSOMES/RE
E78	3	SPIRIN A, 1985, V10, P162, TRENDS BIOCHEM SCI/RE

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E79          5     SPIRIN A, 1985, V32, P75, PROG NUCL ACID RES MOL BIOL/RE
E80          1     SPIRIN A, 1985, V32, P75, PROG NUCL ACID RES MOLEC BIOL/RE
E81          1     SPIRIN A, 1985, V32, P75, PROG NUCL ACIDS RES MOL BIOL/RE
E82         21     SPIRIN A, 1985, V32, P75, PROG NUCLEIC ACID RES MOL BIOL/RE
E83          6     SPIRIN A, 1985, V32, P75, PROG NUCLEIC ACIDS RES MOL BIOL/RE
E84          3     SPIRIN A, 1985, V32, P75, PROGR NUCLEIC ACID RES MOL BIOL/RE

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E85          1     SPIRIN A, 1985, V32, P75, PROGRESS IN NUCLEIC ACID RESEARCH
                   AND MOLECULAR BIOLOLGY/RE
E86          1     SPIRIN A, 1985, V32, P75, PROGRESS IN NUCLEIC ACID RESEARCH
                   MOLECULAR BIOLOGY/RE
E87          1     SPIRIN A, 1986, MOLECULAR BIOLOGY/RE
E88          1     SPIRIN A, 1986, MOLECULAR BIOLOGY RIBOSOME STRUCTURE AND PRO
                   TEIN BIOSYNTHESIS/RE
E89          1     SPIRIN A, 1986, MOLECULAR BIOLOGY RIBOSOME STRUCTURE AND PRO
                   TEIN BIOSYNTHESIS IN RUSSIAN/RE
E90          1     SPIRIN A, 1986, MOLECULAR BIOLOGY STRUCTURE OF RIBOSOMES AND
                    PROTEIN SYNTHESIS IN RUSSIAN/RE
E91          1     SPIRIN A, 1986, MOLEKULYARNAYA BIOLOGIYA STRUKTURA RIBOSOMY
                   I BIOSINTEZ BELKA UCHEBNIK DLYA STUDENTOV BIOLOGICHESKIKH SP
                   ETSIAL NOSTEI VUZOV MOLECULAR BIOLOGY THE STRUCTURE OF RIBOS
                   OMES AND PROTEIN SYN/RE
E92          1     SPIRIN A, 1986, P126, RIBOSOME STRUCTURE AND PROTEIN BIOSYNT
                   HESIS/RE
E93          1     SPIRIN A, 1986, P127, MOLEKULYARNAYA BIOLOGIYA STRUKTURA RIB
                   OSOMY I BIOSINTEZ BELKA/RE
E94          1     SPIRIN A, 1986, P41, MOLECULAR BIOLOGY RIBOSOMAL STRUCTURE A
                   ND PROTEIN BIOSYNTHESIS/RE
E95          1     SPIRIN A, 1986, P556, STRUCTURE FUNCTION AND GENETICS OF RIB
                   OSOME/RE
E96          2     SPIRIN A, 1986, P556, STRUCTURE FUNCTION AND GENETICS OF RIB
                   OSOMES/RE

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E97          1     SPIRIN A, 1986, RIBOSOME STRUCTURE AND BIOSYNTHESIS/RE
E98         15     SPIRIN A, 1986, RIBOSOME STRUCTURE AND PROTEIN BIOSYNTHESIS/
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E99          3     SPIRIN A, 1986, RIBOSOME STRUCTURE AND PROTEIN SYNTHESIS/RE
E100         1     SPIRIN A, 1986, RIBOSOMES STRUCTURE AND PROTEIN BIOSYNTHESIS
                   /RE
E101         1     SPIRIN A, 1986, RIBSOME STRUCTURE AND PROTEIN SYNTHESIS/RE
E102         1     SPIRIN A, 1986, STRUCTURE FUNCTION AND GENETICS OF RIBOSOMES
                   /RE
E103         1     SPIRIN A, 1986, STRUCTURE FUNCTION AND GENETICS OF RIBOZYMES
                   /RE
E104         1     SPIRIN A, 1986, TEXTBOOK FOR HIGHER BIOLOGICAL EDUCATION/RE
E105         1     SPIRIN A, 1987, V18, P119, J MOL BIOL/RE
E106        11     SPIRIN A, 1987, V194, P119, J MOL BIOL/RE
E107         4     SPIRIN A, 1987, V69, P949, BIOCHIMIE/RE
E108         3     SPIRIN A, 1988, P511, THE ROOTS OF MODERN BIOCHEMISTRY/RE

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E109         1     SPIRIN A, 1988, P512, THE ROOTS OF MODERN BIOCHEMISTRY/RE
E110         1     SPIRIN A, 1988, V242, P1161, SCIENCE/RE
E111       100     SPIRIN A, 1988, V242, P1162, SCIENCE/RE
E112         1     SPIRIN A, 1988, V242, P81, SCIENCE WASHINGTON D C/RE
E113         1     SPIRIN A, 1988, V25, P1162, SCIENCE/RE
E114         1     SPIRIN A, 1989, V242, P1162, SCIENCE/RE
E115         1     SPIRIN A, 1989, V30, P3, USPEKHI BIOL KHIM/RE
E116         1     SPIRIN A, 1989, V30, P3, USPEKHI BIOL KHIMII/RE
E117         2     SPIRIN A, 1989, V66, P215, BIOL CELL/RE
E118         1     SPIRIN A, 1990, P31, FRONTIERS IN BIOPROCESSING II/RE
E119         1     SPIRIN A, 1990, P56, THE RIBOSOME/RE
E120         4     SPIRIN A, 1990, P56, THE RIBOSOME STRUCTURE FUNCTION AND EVO
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LUTION/RE

=> s e114
L1 1 "SPIRIN A, 1989, V242, P1162, SCIENCE"/RE
("SPIRIN A, 1989, V242, P1162,"?/RE)

=> d

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:832478 CAPLUS
DN 134:168214
TI Towards New Protein Engineering: In Vivo Building and Folding of Protein Shuttles for Drug Delivery and Targeting by the Selective Pressure Incorporation (SPI) Method
AU Minks, C.; Alefelder, S.; Moroder, L.; Huber, R.; Budisa, N.
CS Abt. Strukturforschung and AG Bioorganische Chemie, Max-Planck-Institut fur Biochemie, Martinsried, D-82152, Germany
SO Tetrahedron (2000), 56(48), 9431-9442
CODEN: TETRAB; ISSN: 0040-4020
PB Elsevier Science Ltd.
DT Journal
LA English
RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s e113
L2 1 "SPIRIN A, 1988, V25, P1162, SCIENCE"/RE
("SPIRIN A, 1988, V25, P1162,"?/RE)

=> d

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:409614 CAPLUS
DN 140:142066
TI A wheat germ cell-free system is a novel way to screen protein folding and function
AU Morita, Eugene Hayato; Sawasaki, Tatsuya; Tanaka, Rikou; Endo, Yaeta; Kohno, Toshiyuki
CS Center for Gene Research, Ehime University, Ehime, 790-8566, Japan
SO Protein Science (2003), 12(6), 1216-1221
CODEN: PRCIEI; ISSN: 0961-8368
PB Cold Spring Harbor Laboratory Press
DT Journal
LA English
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s e110
L3 1 "SPIRIN A, 1988, V242, P1161, SCIENCE"/RE
("SPIRIN A, 1988, V242, P1161,"?/RE)

=> d

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:913874 CAPLUS
DN 140:402534
TI Fully integrated micro biochemical laboratory using biochemical IC chips - cell-free protein synthesis by using a built-in micropump chip -
AU Ikuta, Koji; Takahashi, Atsushi; Ikeda, Kota; Maruo, Shoji
CS Department of Micro System Engineering, Graduate School of Engineering, Nagoya University, Furo-cho, Chikusa-ku, Nagoya, 464-8603, Japan
SO Proceedings - IEEE Annual International Conference on Micro Electro Mechanical Systems, 16th, Kyoto, Japan, Jan. 19-23, 2003 (2003), 451-454

Publisher: Institute of Electrical and Electronics Engineers, New York, N. Y.
CODEN: 69ETSU; ISBN: 0-7803-7744-3
DT Conference
LA English
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s e11
L4 41 "SPIRIN A, 1958, V23, P656, BIOCHIMIA"/RE
("SPIRIN A, 1958, V23, P656,"?/RE)

=> s e111
L5 100 "SPIRIN A, 1988, V242, P1162, SCIENCE"/RE
("SPIRIN A, 1988, V242, P1162,"?/RE)

=> file scisearch

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	14.92	15.13

FILE 'SCISEARCH' ENTERED AT 09:10:20 ON 20 SEP 2004

FILE COVERS 1974 TO 17 Sep 2004 (20040917/ED)

=> e spirin a s, 1988/re

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E2	1	SPIRIN A S, 1987, V242, P1162, SCIENCE/RE
E3	0 -->	SPIRIN A S, 1988/RE
E4	9	SPIRIN A S, 1988, P511, ROOTS MODERN BIOCH/RE
E5	1	SPIRIN A S, 1988, P512, ROOTS MODERN BIOCH/RE
E6	2	SPIRIN A S, 1988, V164, P631, METHOD ENZYMOL/RE
E7	1	SPIRIN A S, 1988, V22, P1530, MOL BIOL/RE
E8	160	SPIRIN A S, 1988, V242, P1162, SCIENCE/RE
E9	1	SPIRIN A S, 1988, V242, P81, SCIENCE/RE
E10	1	SPIRIN A S, 1988, V29, P3, USP BIOL KHIM/RE
E11	2	SPIRIN A S, 1989, P30, VESTN AN SSSR+/RE
E12	1	SPIRIN A S, 1989, V242, P1162, SCIENCE/RE

=> s e8
L6 160 "SPIRIN A S, 1988, V242, P1162, SCIENCE"/RE
("SPIRIN A S, 1988, V242, P1162, SCIENCE"/RE)

=> d

L6 ANSWER 1 OF 160 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 2004:713027 SCISEARCH
GA The Genuine Article (R) Number: 843IR
TI Substrate replenishment extends protein synthesis with an in vitro translation system designed to mimic the cytoplasm
AU Jewett M C; Swartz J R (Reprint)
CS Stanford Univ, Dept Chem Engn, Stanford, CA 94305 USA (Reprint)
CYA USA
SO BIOTECHNOLOGY AND BIOENGINEERING, (20 AUG 2004) Vol. 87, No. 4, pp. 465-472.
Publisher: JOHN WILEY & SONS INC, 111 RIVER ST, HOBOKEN, NJ 07030 USA.
ISSN: 0006-3592.
DT Article; Journal
LA English
REC Reference Count: 35
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

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=> file scisearch caplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        13.04      28.17

FILE 'SCISEARCH' ENTERED AT 09:12:41 ON 20 SEP 2004
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=> s l1-l6
L7          304 (L1 OR L2 OR L3 OR L4 OR L5 OR L6)

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8          233 DUP REM L7 (71 DUPLICATES REMOVED)
                ANSWERS '1-160' FROM FILE SCISEARCH
                ANSWERS '161-233' FROM FILE CAPLUS

=> s l8 and heavy metal
L9            0 L8 AND HEAVY METAL

=> s l8 and heavy
L10           3 L8 AND HEAVY

=> d bib abs 1-3

L10  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   2001:729214  CAPLUS
DN   135:340443
TI   Effect of the antioxidant ionol (BHT) on growth and development of
     etiolated wheat seedlings: control of apoptosis, cell division, organelle
     ultrastructure, and plastid differentiation
AU   Bakeeva, L. E.; Zamyatnina, V. A.; Shorning, B. Yu.; Aleksandrushkina, N.
     I.; Vanyushin, B. F.
CS   Belozersky Institute of Physico-Chemical Biology, Lomonosov Moscow State
     University, Moscow, 119899, Russia
SO   Biochemistry (Moscow, Russian Federation) (Translation of Biokhimiya
     (Moscow, Russian Federation)) (2001), 66(8), 850-859
     CODEN: BIORAK; ISSN: 0006-2979
PB   MAIK Nauka/Interperiodica Publishing
DT   Journal
LA   English
AB   Ionol (BHT), a compound having antioxidant activity, at 1-50 mg/L
     (0.45·10-5-2.27·10-4 M), inhibits growth of etiolated wheat
     seedlings, changes the morphol. of their organs, prolongs the coleoptile
     life span, and prevents the appearance of specific features of aging and
     apoptosis in plants.  In particular, BHT prevents the age-dependent
     decrease in total DNA content, apoptotic internucleosomal fragmentation of
     nuclear DNA, appearance in the cell vacuole of specific vesicles with
     active mitochondria intensively producing mtDNA, and formation of
     heavy mitochondrial DNA (p = 1.718 g/cm3) in coleoptiles of
     etiolated wheat seedlings.  BHT induces large structural changes in the
     organization of all cellular organelles (nucleus, mitochondria, plastids,
     Golgi apparatus, endocytoplasmic reticulum) and the formation of new unusual
     membrane structures in the cytoplasm.  BHT distorts the division of nuclei
     and cells, and this results in the appearance of multi-bladed polyploid
     nuclei and multinuclear cells.  In roots of etiolated wheat seedlings, BHT
     induces intensive synthesis of pigments, presumably carotenoids, and the
     differentiation of plastids with formation of chloro- or chromoplasts.
     The observed multiple effects of BHT are due to its antioxidative properties
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(the structural BHT analog 3,5-di-tert-butyltoluene is physiol. inert; it has no effect similar to that of BHT). Therefore, the reactive oxygen species (ROS) controlled by BHT seem to trigger apoptosis and the structural reorganization of the cytoplasm in the apoptotic cell with formation of specific vacuolar vesicles that contain active mitochondria intensively producing mtDNA. Thus, the inactivation of ROS by BHT may be responsible for the observed changes in the structure of all the mentioned cellular organelles. Apparently, ROS control apoptosis and mitosis including formation of cell wall, and they are powerful secondary messengers that regulate differentiation of plastids and the Golgi apparatus in plants.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:613059 CAPLUS
DN 131:284027
TI Subcellular reorganization of mitochondria producing **heavy** DNA in aging wheat coleoptiles
AU Bakeeva, L. E.; Kirnos, M. D.; Aleksandrushkina, N. I.; Kazimirchyuk, S. B.; Shorning, B. Yu.; Zamyatnina, V. A.; Yaguzhinsky, L. S.; Vanyushin, B. F.
CS Belozersky Institute of Physico-Chemical Biology, Lomonosov Moscow State University, Moscow, 119899, Russia
SO FEBS Letters (1999), 457(1), 122-125
CODEN: FEBLAL; ISSN: 0014-5793
PB Elsevier Science B.V.
DT Journal
LA English
AB Unusual closed membrane vesicles containing one or more mitochondria were isolated from homogenates of aging wheat coleoptiles. Very similar (or the same) bodies were shown to exist in situ in vacuoles of undividing cells in the apical part of intact senescent coleoptiles. Vesicles isolated from coleoptile homogenate free of nuclei by 10 min centrifugation at 1700+g and traditional mitochondria (sedimented at between 4300+g and 17 400+g) are similar in respiration rate, composition and content of cytochromes and sensitivity to respiration inhibitors. However, vesicles contain about 2-fold more Ca2+ ions than free mitochondria do. The specific feature of vesicles containing mitochondria in aging coleoptiles is an intensive synthesis of **heavy** (ρ=1.718 g/cm3) mitochondrial DNA (H-mtDNA). Thus, aging in plants is accompanied by an increased selective H-mtDNA production and change in subcellular organization of mitochondria.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:283164 CAPLUS
DN 131:113724
TI Unusual fast sedimenting mitochondria producing **heavy** DNA in the cells of aging coleoptiles of wheat seedlings
AU Kirnos, M. D.; Alexandrushkina, N. I.; Bakeeva, L. E.; Kazimirchuk, S. B.; Shorning, B. Yu.; Alekseeva, V. A.; Yaguzhinsky, L. S.; Vanyushin, B. F.
CS Belozersky Institute of Physico-Chemical Biology, Lomonosov Moscow State University, Moscow, 119899, Russia
SO Biochemistry (Moscow)(Translation of Biokhimiya (Moscow)) (1999), 64(3), 307-317
CODEN: BIORAK; ISSN: 0006-2979
PB MAIK Nauka/Interperiodica Publishing
DT Journal
LA English
AB A fraction of unusual fast sedimenting (10 min at 600-1700g) particles with properties of mitochondria has been detected in wheat seedlings. This fraction conventionally called "**heavy**" mitochondria amts. (by protein) to about 40% of the total subcellular particle fraction

sedimented by 10 min centrifugation at 17,000g. The specific feature of these "**heavy**" mitochondria in aging tissues is an ability to synthesize and even superproduce **heavy** (ρ = 1.718 g/cm3) mitochondrial DNA (H-mtDNA). The share of "**heavy**" mitochondria sedimented in the interval between 1000 and 1700g and possessing the maximal H-mtDNA synthesis in aging coleoptiles is about 1.5-fold higher than that in young coleoptiles. Although "**heavy**" mitochondria are present in young plant organs, they seem to be unable to synthesize H-mtDNA; **heavy** mtDNA forms only in mitochondria of aging or old cells. Thus, aging in plants is accompanied by a change in population of mitochondria and appearance of the ability for selective H-mtDNA superprodn. in a certain mitochondrial fraction. Mitochondria isolated from wheat coleoptiles are practically not stimulated by uncouplers. " **Heavy**" (600-1700g) and usual (4,300-17,400g) mitochondria are similar in respiration rates, cytochrome compns., cytochrome c amount (per mg protein) and sensitivities to respiration inhibitors. However, " **heavy**" mitochondria contain (per mg protein) cytochromes b and aa3 by 10-20% and Ca2+ by 2-3-fold more than normal mitochondria. Ultrastructural anal. showed that the isolated fraction of fast sedimenting mitochondria consists of a suspension of closed membrane vesicles filled with cytoplasm and containing one or a few mitochondria. We observed similar structures in situ in vacuoles of parenchyma cells in the apical part of intact coleoptiles. The process of formation of such structures was detected by serial ultra-thin section anal. It was shown that tonoplast protrudes into vacuoles, the sep. mitochondria translocate into these protrusions, and then these structures sep. As a result, the suspended cytoplasmic bodies containing mitochondria appear in vacuoles. Appearance of these bodies containing mitochondria and, in particular, the superprodn. of H-mtDNA in them correlate with processes of aging and cell transition to apoptosis.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s l8 and (mercury or iron or platinum or iodine or selenium or lead)
L11 11 L8 AND (MERCURY OR IRON OR PLATINUM OR IODINE OR SELENIUM OR LEAD)

=> s l11 and pd<20010308
L12 9 L11 AND PD<20010308

=> dup rem l12
PROCESSING COMPLETED FOR L12
L13 9 DUP REM L12 (0 DUPLICATES REMOVED)
ANSWERS '1-2' FROM FILE SCISEARCH
ANSWERS '3-9' FROM FILE CAPLUS

=> d bib abs 1-9

L13 ANSWER 1 OF 9 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 97:45158 SCISEARCH
GA The Genuine Article (R) Number: WA729
TI Functional antibody production using cell-free translation: Effects of protein disulfide isomerase and chaperones
AU Ryabova L A; Desplancq D; Spirin A S; Pluckthun A (Reprint)
CS UNIV ZURICH, INST BIOCHEM, WINTERTHURSTR 190, CH-8057 ZURICH, SWITZERLAND (Reprint); UNIV ZURICH, INST BIOCHEM, CH-8057 ZURICH, SWITZERLAND; RUSSIAN ACAD SCI, INST PROT RES, PUSHCHINO 142292, MOSCOW REG, RUSSIA
CYA SWITZERLAND; RUSSIA
SO NATURE BIOTECHNOLOGY, (**JAN 1997**) Vol. 15, No. 1, pp. 79-84.
Publisher: NATURE PUBLISHING CO, 345 PARK AVE SOUTH, NEW YORK, NY 10010-1707.
ISSN: 1087-0156.
DT Article; Journal

FS LIFE; AGRI
LA English
REC Reference Count: 49
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB To create a rapid system to test the effect of sequence changes on recombinant antibody binding, we have developed a procedure for producing functional scFv fragments in an Escherichia coli cell-free translation system. Functional antibodies with antigen-binding activity are obtained only if disulfide formation and rearrangement is allowed to take place during the translation reaction. The inclusion of protein disulfide isomerase (PDI) **leads** to a threefold increase in yield over that obtained in the presence of glutathione redox systems. DsbA had no such effect, indicating that disulfide shuffling, and not net formation, is the crucial yield-limiting step. The addition of the molecular chaperones DnaK and DnaJ increased the amount of soluble protein but not the amount of functional scFv, which appears to be limited entirely by correct disulfide formation. None of these factors significantly influenced total protein synthesis. In the presence of PDI, chaperones, reduced glutathione and oxidized glutathione, 50% of the scFv produced (about 8 mu g/ml in only 15 min) could be recovered from immobilized antigen.

L13 ANSWER 2 OF 9 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 94:372444 SCISEARCH
GA The Genuine Article (R) Number: NR296
TI ACTIVATION AND RELEASE OF ENZYMATICALLY INACTIVE, FULL-LENGTH RHODANESE THAT IS BOUND TO RIBOSOMES AS PEPTIDYL-TRANSFER-RNA
AU KUDLICKI W; ODOM O W; KRAMER G; HARDESTY B (Reprint)
CS UNIV TEXAS, DEPT CHEM & BIOCHEM, AUSTIN, TX, 78712 (Reprint); UNIV TEXAS, DEPT CHEM & BIOCHEM, AUSTIN, TX, 78712
CYA USA
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (**17 JUN 1994**) Vol. 269, No. 24, pp. 16549-16553.
ISSN: 0021-9258.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 24
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Synthesis of rhodanese in a cell-free coupled transcription/translation system derived from Escherichia coli **leads** to an accumulation of full length rhodanese protein on the ribosomes as well as to enzymatically active protein that is released from the ribosomes into the supernatant fraction. The ribosome-bound protein is enzymatically inactive but can be activated and released from the ribosomes without additional protein synthesis by subsequent incubation in the presence of the added chaperones DnaJ, DnaK, GrpE, GroEL, and GroES plus ATP. Efficient activation requires that all of the chaperones are present together during incubation which yields fully active rhodanese. Incubation in the presence of DnaJ only inhibits release whereas incubation with only GroES or DnaK promotes the release of enzymatically inactive protein. Incubation of the ribosome with puromycin **leads** to the release of enzymatically inactive protein whereas release and activation in the presence of all of the chaperones is blocked by sparsomycin. The effect of these antibiotics provides very strong evidence that enzymatically inactive, full-length rhodanese is bound to the ribosomes as peptidyl-tRNA and that the peptidyl transferase reaction is required for its release. Considered together, the data indicate that chaperone-mediated late stages of rhodanese folding into the enzymatically active, native conformation are intimately associated with the process of termination and release that occurs as part of the reaction cycle of protein synthesis.

L13 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:32785 CAPLUS
DN 137:163391

TI Comparative aspects between the interactions of deoxyribonucleic acid with some cytostatic drugs: particularisation for the action with cis-**platinum** and cyclophosphamide. 1. Investigations in vivo on experimental animals
AU Garban, Z.; Cartis, I.; Avacovici, A.; Moldovan, I.
CS Department of Biochemistry and Molecular Biology, Faculty of Food Products Technology, University of Agricultural Sciences and Veterinary Medicine, Timisoara, RO-1900, Rom.
SO Mengen- und Spurenelemente, Arbeitstagung, 20th, Jena, Germany, Dec. 1-2, 2000 (**2000**), 1118-1125. Editor(s): Anke, Manfred. Publisher: Schubert-Verlag, Leipzig, Germany.
CODEN: 69CER8; ISBN: 3-929526-61-1
DT Conference
LA English
AB The effects of two chemotherapeutics, cis-**platinum** [cis-dichlorodiammineplatinum] (CDDP) and cyclophosphamide [2-bis-(β-chlorethyl)-amino-1-oxa-3-aza-2-phospho-cyclohexane 2-oxide] (Cp) on the hepatic DNA concentration, serum protein concns. and electrophoretic fractions, albumin and globulin, were studied. Animals were i.p. injected with increasing doses of these drugs and killed after 48 h. Blood samples and hepatic tissue fragments were taken for biochem. evaluation. The i.p. administered CDDP and Cp decreased the hepatic DNA concentration with increasing administered dose. CDDP induced the increase of total serum proteins. Albumin fractions decreased while the globulin fraction increased, and globulin subfractions revealed a hypo α1- and α2-globulinemia and a hyper β- and γ-globulinemia.
The serum proteins in Cp-treated animals increased compared with the control group.
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:388752 CAPLUS
DN 131:43633
TI Non-wasteful fractionation of fragile yeast cells for the production of nutritional protein and other byproducts
AU Koleva, Lidia; Stateva, Lubomira; Venkov, Pencho
CS High Institute Food Flavor Industries, Plovdiv, Bulg.
SO Zeitschrift fuer Lebensmittel-Untersuchung und -Forschung A: Food Research and Technology (**1999**), 208(5-6), 439-443
CODEN: ZLFAFA; ISSN: 1431-4630
PB Springer-Verlag
DT Journal
LA English
AB Saccharomyces cerevisiae 211 is a fragile yeast mutant whose cells grow only in media supplemented with osmotic stabilizer (1.6% NaCl), but which lyse spontaneously in water. This property provides a non-conventional way for isolation of nutritional protein and other products. We describe here a procedure based on the lysis ability of fragile yeasts for processing the biomass into several fractions. Cell lysis and downstream fractionation of the lysate do not include chemical or temperature treatment steps.
The obtained protein fractions account for half of the starting biomass and contain 86% fully digestible protein and only 2% nucleic acids. The glycan fraction (with 83% polysaccharides) and the low mol. mass fraction are byproducts of the procedure. The latter can be used as a nutritional media supplement in microbiol. and as a source for purification of 5'-GMP, a potent flavor enhancer. The high rate of quant. recovery and the mild conditions used to fractionate the biomass indicate the advantages of the fragile yeasts for production of nutritional protein and other products on a large scale by an efficient and non-wasteful technol.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:96744 CAPLUS
DN 131:197
TI Interaction of protonated DNA with trans-dichlorodiammineplatinum(II)
AU Kasyanenko, N. A.; Prokhorova, S. A.; Haya Enriquez, E. F.; Sudakova, S. S.; Frisman, E. V.; Dyachenko, S. A.; Smorygo, N. A.; Ivin, B. A.
CS Physics Department, St. Petersburg State University, St. Petersburg, 198904, Russia
SO Colloids and Surfaces, A: Physicochemical and Engineering Aspects (**1999**), 148(1-2), 121-128
CODEN: CPEAEH; ISSN: 0927-7757
PB Elsevier Science B.V.
DT Journal
LA English
AB The optical anisotropy and spectral properties of protonated double-stranded DNA during its interaction with trans-dichlorodiammineplatinum(II) (trans-DDP) were studied. No changes in the optical anisotropy of protonated DNA macromols. were observed during the preparation of protonated DNA complexes with trans-DDP. It is known, however, that the binding of trans-DDP to native DNA in solution at neutral pH increases its optical anisotropy. The spectral properties of the complexes under study correspond to those of protonated DNA. The exptl. data show that the site of native DNA protonation also plays an important role in its binding to trans-DDP. In contrast, a decrease in the pH of the solution containing trans-DDP-DNA complexes to the value at which DNA protonation takes place does not **lead** to changes in the optical anisotropy or absorption spectrum of the macromol. These facts indicate that the protonation sites on the macromol. are blocked by trans-DDP.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:207556 CAPLUS
DN 130:235944
TI Metabolic changes concerning the effect of castration on some blood constituents in male rabbits
AU Hussein, S. A.; Azab, M. E.; Abdel-Maksoud, H.
CS Department Physiology, Biochemistry, Pharmacology, Faculty Veterinary Medicine, Benha University, Benha, 13736, Egypt
SO DTW, Deutsche Tieraerztliche Wochenschrift (**1999**), 106(3), 113-118
CODEN: DDTWDG; ISSN: 0341-6593
PB Verlag M. & H. Schaper GmbH
DT Journal
LA English
AB The effects of castration were investigated on protein, lipid, and mineral metabolism in both immature and mature rabbits for ≤8 wk. Castration decreased blood serum concentration of total protein, albumin, and α1- and α2-globulins. The γ-globulin level was decreased temporarily at 2 wk after castration in mature rabbits. Serum total nucleic acid concns. were decreased after castration throughout the exptl. period, whereas the serum uric acid concentration markedly increased after castration. Serum lipids (total lipids, total cholesterol, phospholipids, and non esterified fatty acids) were increased after castration. Serum Cu, Fe, Zn, and Mn concentration were decreased after castration, especially Cu and Zn levels in mature castrated rabbits. Serum Na and K concentration were decreased after castration. Testosterone propionate administration in mature castrated rabbits normalized most of the serum blood parameters.
RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:537864 CAPLUS
DN 132:87837
TI Changes induced in homeostasis by the action of cis-**platinum** on

the maternofetal complex
AU Garban, Z.; Daranyi, G.; Avacovici, A.; Moldovan, I.; Cartis, I.
CS Department of Biochemistry and Molecular Biology, Faculty of Food Production Technology, University of Agricultural Sciences and Veterinary Medicine, Timisoara, RO-1900, Rom.
SO Mengen- und Spurenelemente, Arbeitstagung, 18th, Jena, Dec. 4-5, 1998 (**1998**), 873-880. Editor(s): Anke, Manfred. Publisher: Verlag Harald Schubert, Leipzig, Germany.
CODEN: 68AWAS
DT Conference
LA English
AB Cis-**platinum** decreased hepatic DNA synthesis in pregnant rats and fetuses. Hypoalbuminemia and hyperglobulinemia were also observed
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:173507 CAPLUS
DN 129:1796
TI Investigation of DNA complexes with **iron** ions in solution
AU Kasyanenko, N.; Arikainen, N.; Frisman, E.
CS Department Physics, St. Petersburg State University, St. Petersburg, 198904, Russia
SO Biophysical Chemistry (**1998**), 70(2), 93-100
CODEN: BICIAZ; ISSN: 0301-4622
PB Elsevier Science B.V.
DT Journal
LA English
AB The optical anisotropy and intrinsic viscosity of DNA-Fe3+ complexes have been investigated. It was shown that the binding of **iron** ions to DNA causes the shrinkage of the macromol. The formation of such complexes is accompanied by increasing DNA optical anisotropy. We suggest that the binding of **iron** ions to widely spaced groups along the DNA chain creates the conditions for initiation of mutually oriented DNA fragments, thus, ensuring a higher mol. optical anisotropy.
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:514726 CAPLUS
DN 127:214589
TI Interaction of DNA with coordination compounds of bivalent **platinum.** III. **Platinum** compounds with two pyrimidine ligands
AU Kas'yanenko, N. A.; Nikolenko, O. V.; Prokhorova, S. A.; D'yachenko, S. A.; Smorygo, N. A.; Ivin, B. A.; Frisman, E. V.
CS Research Institute of Physics, St. Petersburg State University, St. Petersburg, 198904, Russia
SO Molecular Biology (Translation of Molekulyarnaya Biologiya (Moscow)) (**1997**), 31(2), 240-244
CODEN: MOLBBJ; ISSN: 0026-8933
PB Consultants Bureau
DT Journal
LA English
AB The interaction of DNA with coordination compds. of bivalent **platinum** containing 5-substituted uracil ligands was studied. For all complexes, the mode of interaction with DNA in solution is virtually unaffected by the nature of the substituent. Ionic strength has only a slight effect on complex formation. The **platinum** compds. alter the optical anisotropy of DNA but have no influence on its CD and hydrodynamic parameters. It is assumed that the **platinum** complexes bind to the macromol. so that the pyrimidine ligands are on the periphery of the double helix. It is possible in this case that the NH3 groups form hydrogen bonds with the phosphate oxygens.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

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